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Chapter IV

Market Definition in the Electronic Communications Sector

Alexandre de Streel

A. Introduction

4-001 Market definition is the first step in the application of competition rules—To apply EU competition law, it is first necessary to define the relevant market. This is so in order to assess (i) the effects of an agreement or concerted practice on competition for the purposes of Article 101(1) and (3) of the Treaty on the Functioning of the European Union [ex 81(1) and (3) of the EC Treaty]; (ii) to assess whether there is a dominant position and, if so, an abuse of it within the meaning of Article 102 [ex 82]; (iii) whether a concentration could significantly impede competition for the purposes of the Merger Control Regulation, or (iv) whether state aid is compatible with the common market under Article 107(3) [ex 87(3)]. This requires the Commission to first define the relevant product and geographic market(s) on which these actions may have an impact. In the case of market conduct or mergers, the main purpose of market definition is to identify the competitive constraints faced by the undertakings involved, in particular their actual competitors that are immediately capable of constraining their conduct and thus of preventing them from behaving independently of effective competitive pressure.¹ In the case of state aid measures, the purpose of market definition is to identify the extent to which the measure will have negative effects on competition, in particular on the competitors and consumers that will be affected by the resulting change in the behaviour of the aid beneficiary.² This is why an accurate market definition is the cornerstone for the correct assessment of the competitive impact of an agreement or concerted practice, market conduct, a concentration or a state aid measure. As a general rule, the broader the market definition, the less likely competition concerns will be identified, thus explaining why the Commission and national competition authorities will often define markets narrowly.

4-002 Market definition methodology under different competition rules—The methodology applied by the Commission in defining the relevant market does not differ substantially depending on whether it is applying Articles 101 or 102, the Merger Control Regulation or the state aid rules.

¹ Commission Notice on the definition of the relevant market for the purposes of Community Competition law, O.J. 1997 C372/5, para.2 ("Market Definition Notice").

² European Commission, DG Competition Staff Working Paper, "Common Principles for an economic assessment of the compatibility of State aid under Article 87(3) EC Treaty" (May 2009), paras.53–56.

Accordingly, the content of this chapter is valid equally in the framework of the assessment of market conduct, alliances and mergers and acquisitions under Articles 101 and 102, the rules on state aid and the Merger Control Regulation, reviewed in Chapters V, VI and VII, respectively. However, the Commission may define the relevant market differently if it is examining existing market dominance and past abuses of such dominance under Article 102 or the impact of state aid measures (which are essentially retrospective exercises) or whether a concentration will significantly impede effective competition, in particular by creating or strengthening a dominant position (which is essentially a forward-looking exercise). In the latter case, the Commission must use a forward-looking approach to market definition and will need to take into consideration matters such as upcoming technological developments, possible new competing products and/or changes in trade patterns that would result in different patterns of competition and thus justify a wider product and/or geographic market. This, obviously, is not always relevant when the Commission is called to review past practices on a specific product market.³

4-003 Market definition is also the first step for the application of sector-specific regulation. Following the alignment of sector-specific regulation with competition law principles with the entry into force of the 2002 Electronic Communications Regulatory Framework, the Framework Directive requires the national regulatory authorities to define the relevant markets for the application of *ex ante* regulation according to the principles of competition law.⁴ The use of the same principles ensures that the relevant market defined for the purpose of sector-specific regulation will generally correspond to the market defined for the purposes of competition law.⁵ In some cases, however, markets defined under competition law may differ from those defined under sector-specific regulation,⁶ because the NRAs have a broader focus and must base their analysis on an overall forward-looking assessment of the structure and the functioning of the market, whereas the competition authorities focus their analysis on a particular agreement or concerted practice, an alleged abuse of dominant position, a concentration or a state aid measure.⁷

³ Market Definition Notice, para.4-001, n.1, para.12.

⁴ Art.15 of Directive 2002/21 of March 7, 2002 on a common regulatory framework for electronic communications networks and services, O.J. 2002 L108/33 ("Framework Directive"), as amended by Directive 2009/140 of November 25, 2009 amending Directives 2002/21, 2002/19 and 2002/20 ("Better Regulation Directive"), O.J. 2009 L337/37.

⁵ See Commission Guidelines of July 11, 2002 on market analysis and the assessment of significant market power under the Community regulatory framework for electronic communications networks and services, O.J. 2002 C165/06, paras.25 and 37 ("SMP Guidelines").

⁶ Framework Directive, para.4-003, n.4, Art.15(1), which makes clear that the markets defined by NRAs for the purposes of that Directive are without prejudice to those defined by the national competition authorities and by the Commission in the exercise of their respective powers under competition law in specific cases. See also SMP Guidelines, para.4-003, n.5, para.27 and Commission Recommendation 2007/879 of December 17, 2007 on relevant product and service markets within the electronic communications sector susceptible to *ex ante* regulation in accordance with Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communications networks and services, O.J. 2007 L344/65, recital 16 ("Second Relevant Markets Recommendation").

⁷ There is an additional difference between competition law and sector-specific regulation: under the latter, the markets should satisfy an additional test, the three criteria test, in order to be subject to *ex ante* regulation: see para.4-017 *et seq.*, below.

B. Guidelines for defining the relevant markets

4-004 Notion of a relevant market.—The relevant market within which a given competition or sector-specific regulatory issue must be assessed is established by a combination of its product and geographic dimensions. A relevant product market comprises all the products or services that are considered by users as substitutes, given their characteristics, prices and uses.⁸ A relevant geographic market comprises a specific geographic area in which businesses are competing in the supply of products or services to users.⁹

4-005 Relevance of different competitive constraints in market definition.—Undertakings are subject to three types of competitive constraint, which are analysed in determining the relevant product and geographic markets: (i) demand-side substitutability; (ii) supply-side substitutability; and (iii) potential competition. *Demand-side substitutability* is the ability of consumers to switch to substitute products that they consider sufficiently similar in function, price and attributes in case of a small non-transitory price increase. It is the primary criterion used by the Commission in defining the relevant product market when applying EU competition law because competition from existing competitors supplying the same products is the most immediate and effective competitive force on the supplier of a given product.¹⁰ *Supply-side substitutability* is the ability of suppliers of products that are not demand substitutes to adjust, in the short term (less than one to two years) and without incurring significant additional costs or risks, their production resources to supply products that are demand substitutes. As it should have equivalent disciplining effects to those of demand-side substitutability, supply-side substitutability is less commonly found in practice.¹¹ *Potential competition* is the ability of suppliers to switch their production to substitutable products, but in a longer term. As its disciplining effect on firms' behaviour is weaker than supply-side competition, potential competition is ordinarily only taken into account at a later stage when assessing market power and not in the definition of the relevant market.

⁸ The Commission defines the relevant product market as comprising "all those products and/or services which are regarded as interchangeable or substitutable by the consumer, by reason of the products' characteristics, their prices and their intended use": Market Definition Notice, para.4-001, n.1, para.7; see Case T-340/03, *France Télécom v Commission* [2007] E.C.R. II-107, para.78, upheld on appeal in Case C-202/07P, *France Télécom v Commission* [2010] C.E.C. 3.

⁹ The Commission defines the relevant geographic market as "the area in which the undertakings concerned are involved in the supply and demand of products or services, in which the conditions of competition are sufficiently homogeneous and which can be distinguished from neighbouring areas because the conditions of competition are appreciably different in those areas": Market Definition Notice, para.4-001, n.1, para.8.

¹⁰ *ibid.*, para.13.

¹¹ *ibid.*, para.14. This may be the case when companies manufacture a wide range of different qualities or grades of one type of product; even if, for a given final customer or group of consumers, the different qualities or grades are not substitutable, the different qualities or grades will form a single product market, provided that most suppliers are able to offer and sell immediately the various qualities or grades. For instance, the Commission has found that different grades and qualities of paper formed part of the same product market, as manufacturers were able to use their paper mills to manufacture a wide range of grades and qualities, and were in fact able to readily switch production between them: Case M.166, *Torrás/Sarrió*, Commission Decision of February 24, 1992. The same was true of still and sparkling water: Case M.1065, *Nestlé/San Pellegrino*, Commission Decision of February 16, 1998. However, supply-side substitutability does not necessarily exist between similar products; for example, there is not supply-side substitutability between car and truck tyres, owing to the differences in the production techniques and the machinery needed: Case 322/81, *Michelin v Commission* [1983] E.C.R. 3461.

4-006 The Small but Significant Non-transitory Increase in Price (SSNIP) test—The standard theoretical framework to assess demand and supply-side substitution is the analysis of customers' responses to a hypothetical small (in the range of 5–10 per cent) but permanent price increase in the product and geographic area to be considered: this is assessed using the SSNIP test. If a sufficient number of customers would switch to alternative products, or other suppliers of the same product located elsewhere would come to the area under review, and thereby make the price increase unprofitable because of the resulting loss of sales, these alternative products and/or geographic areas must be included in the relevant market. This analysis is repeated until alternative substitutes or additional geographic areas are such that a permanent increase in prices would be profitable.¹² For example, in the beverage sector, the analysis could start with mineral water and be extended gradually to the different types of soft drinks, carbonated beverages and other types of beverage.

4-007 Relevant evidence—To perform the standard SSNIP test explained above, the Commission relies on several types of evidence in defining the relevant product market: (i) evidence of substitution in the recent past; (ii) the views of customers and competitors; (iii) consumer preferences; (iv) barriers to entry and switching, and the costs associated with switching to potential substitutes; and (v) different categories of customers and price discrimination between them.¹³ The geographic product market will generally be defined on the basis of the following elements: (i) past evidence of orders to other areas; (ii) basic demand characteristics (*i.e.* national preferences, preferences for national brands, language, culture and lifestyle, need for local presence); (iii) views of customers and competitors; (iv) current geographic pattern of purchases; and (v) barriers to entry and the costs associated with switching to companies located in other areas (such as the need for a local presence, the costs of distribution networks, and regulatory and other barriers to trade).¹⁴

4-008 The difficulties of defining relevant markets in the electronic communications sector—The definition of markets in the electronic communications sector raises some difficulties due to the characteristics of the sector such as network effects, the liberalisation process or the high degree of innovation.¹⁵ The Commission provided some guidance on market definition in the electronic communications sector in its Competition Guidelines¹⁶ and in its Access Notice.¹⁷ With the convergence of sector-specific rules and competition law, the Commission's SMP Guidelines¹⁸ provide

an important source of reference, as do its First and Second Relevant Markets Recommendations.¹⁹ The Commission's decision-making practice and the case law of the Court of Justice and the General Court on market definition in the electronic communications sector also provide important guidance.

4-009 Retail and wholesale markets and self-supply—In order to supply services to end-users, a service provider needs access to one or more facilities, such as the termination points of the electronic communications networks to which these end-users are connected. Consequently, the Commission considers at least two types of relevant market: downstream markets for retail services and upstream markets for wholesale infrastructure.²⁰ At the wholesale level, the difficult issue is whether competition authorities may define a hypothetical or notional market when there is no merchant market (at the wholesale level) and the retail market is entirely supplied by one or more vertically-integrated undertakings. The Court of Justice considers that such a notional market may be defined for the purposes of applying competition law when the wholesale services are indispensable in order to carry on a particular retail business and where there is an actual demand for them on the part of undertakings which seek to carry on the business for which they are indispensable.²¹ A related issue is whether self-provision of wholesale inputs by vertically-integrated operators should be taken into account in defining the relevant market and in undertaking the market analyses. The Commission considers that, in the case of incumbent operators, self-supply should normally be taken into consideration when defining the market. In other words, the market should be enlarged to include self-provision and not be limited to merchant supply to third parties. In the case of new entrants, self-supply may be taken into consideration, unless the entrants face capacity constraints, or their networks lack the ubiquity expected by access seekers, and/or if alternative providers have difficulty in readily entering the merchant market.²²

4-010 Each network may be a separate market—The electronic communications sector is characterised by externalities that may lead to the definition of very narrow markets. In the

¹⁹ Commission Recommendation of February 11, 2003 on the relevant product and service markets within the electronic communications sector susceptible to *ex ante* regulation in accordance with Directive 2002/21 of the European Parliament and of the Council on a common regulatory framework for electronic communications networks and services, O.J. 2003 L114/45 ("First Relevant Markets Recommendation") and Second Relevant Markets Recommendation, para.4-003, n.6.

²⁰ Second Relevant Markets Recommendation, para.4-003, n.6, recital 4; Access Notice, para.4-008, n.17, para.45.

²¹ Case C-418/01, *IMS Health v NDC Health* [2004] E.C.R. I-5039, para.44; see also Second Relevant Markets Recommendation, para.4-003, n.6, recital 4.

²² European Commission, Staff Working Document, "Explanatory Note, Accompanying Document to the Commission Recommendation on Relevant Product and Service Markets (Second Edition)", SEC(2007) 1483 final, 15 ("Explanatory Note to the Second Relevant Markets Recommendation") and BEREC, "Report on self-supply", BOR (70)09 (March 2010). See also Case UK/2003/0032, *Asymmetric broadband origination in the Hull area*, Commission Comments of February 5, 2004; Case NL/2005/0281, *Wholesale broadband access in the Netherlands*, Commission Comments of December 2, 2005; Case AT/2005/0312, *Wholesale broadband access in Austria*, Commission Comments of December 22, 2005; Case UK/2007/0733, *Wholesale broadband access in the UK*, Commission Comments of February 14, 2008; and Case PT/2008/0850, *Wholesale (physical) network infrastructure access (including shared or fully unbundled access) at a fixed location*, Commission Comments of January 5, 2009. In Case T-221/95, *Endemol v Commission* [1999] E.C.R. II-1299, para.107, and Case T-310/01, *Schneider Electric v Commission* [2002] E.C.R. II-4071, paras.281–297, the Court of First Instance considered that the Commission should have included self-supply in the definition of the relevant market. See also Cave, Stumpf and Valletti, *A Review of certain markets included in the Commission's Recommendation on Relevant Markets subject to ex ante Regulation* (Report for the European Commission, 2006), 14–19.

¹² Market Definition Notice, para.4-001, n.1, para.17.

¹³ *ibid.*, para.36 *et seq.*

¹⁴ *ibid.*, para.44 *et seq.*

¹⁵ See Bavasso, *Communications in EU Antitrust Law: Market Power and Public Interest* (Kluwer, 2003); Dobbs, "Defining Markets for Ex Ante Regulation using the Hypothetical Monopoly Test" (2006) 13 *Int. Jour. of the Economics of Business* 83; Evans and Schmalensee, *Some economic aspects of antitrust analysis in dynamically competitive industries*, (2001) NBER Working Paper 8268; Frontier Economics, *E-commerce and its implications for competition policy* (OFT Economic Discussion Paper 1, 2000); Gual, "Market Definition in the Telecoms Industry", in Buiges and Rey, *The Economics of Antitrust and Regulation in Telecommunications*, (Edward Elgar, 2004); Nihoul and Rodford, *EU Electronic Communications Law* (Oxford University Press, 2004), 261–283; Madiaga, "Innovation and Market Definition under the EU Regulatory Framework for Electronic Communications" (2006) 21 *World Competition* 55; Richards, "The limitations of market-based regulation of the electronic communications sector" (2006) 30 *Telecommunications Policy* 201.

¹⁶ European Commission, Guidelines on the Application of Competition Rules in the Telecommunications Sector, O.J. 1991 C233/2 ("Competition Guidelines").

¹⁷ European Commission, Notice on the Application of the Competition Rules to Access Agreements in the Telecommunications Sector, O.J. 1998 C265/2 ("Access Notice").

¹⁸ SMP Guidelines, para.4-003, n.5.

European fixed and mobile sectors, the prevalent tariff principle is the so-called 'calling party pays' principle: the called party (who chooses the network to which it is connected) does not pay for the call, whereas the calling party (who usually cannot choose the network which terminates the call) has to pay for the call.²³ There is a dichotomy between the user who pays and the user who chooses; in other words, the called party imposes a negative externality on the calling party. It is thus plausible that the called network may profitably increase its wholesale termination charges to be paid by the calling network because the calling network (and ultimately the calling customer) has no choice but to use the network of the called user, who customer will not switch to another network, as he does not pay the termination charge.²⁴ The negative externality created by the 'calling party pays' principle leads to the conclusion that each fixed and mobile network may constitute a distinct relevant market for the termination service.²⁵

4-011 Two-sided markets—Markets in the electronic communications sector are often of a two-sided nature, in that they comprise services provided over networks or platforms that bring together users on either side of the market. For example, telecommunications services bring together a calling user and a called user, whilst media platforms bring together advertisers and viewers that watch adverts (so-called "eyeballs"). These aspects need to be taken into account when defining the relevant markets and it would be inappropriate to focus solely on one side of the market and ignore the other side. Both sides of the market should be analysed together by competition and regulatory authorities, as the pricing and the marketing strategies of the platform operator take both sides into account.²⁶ For instance, it would be wrong to conclude that free-to-air broadcasters charge predatory prices (in effect a zero price) to their viewers, as their costs are recovered from the other side of the market, the advertisers.

4-012 The prevailing price is not always a good basis on which to apply the SSNIP test—The SSNIP test leads to a correct market definition only when the basis price on which the hypothetical 5 to 10 per cent increase is calculated corresponds to the competitive price. If the basis price is higher than the competitive price, the defined market will include products which are not substitutable at a competitive price, but which are substitutable at a higher price. Thus, in such circumstances, the use of the SSNIP test leads to a definition of the relevant market which is too

²³ Littlechild, "Mobile Termination Charges: Calling Party Pays vs Receiving Party Pays" (2006) 30 Telecommunications Policy 242.

²⁴ This negative externality does not mean that fixed or mobile termination is an essential facility for the purposes of competition law. The essential facility doctrine covers infrastructures that are not capable of being duplicated on an economic basis, and corresponds to one particular market failure which is the natural monopoly: see paras.5-052 and 5-095 *et seq.*, below Termination relates to infrastructures which have been or could be duplicated (such as mobile networks) and corresponds to another market failure, that of the negative externality. Considering termination to be an essential facility is to confuse a situation of two-way access with a situation of one-way access: see Laffont and Tirole, *Competition in Telecommunications* (MIT Press, 2000).

²⁵ See Explanatory Note to the Second Relevant Markets Recommendation, para.4-009, n.22, 24. Market definition is an empirical exercise and others factors may constrain the pricing behaviour of the called network. For example, the person called may be sensitive to the price to be reached (*e.g.* in the case of closed users groups or family and friends when the called party actually pays the invoice of the calling party). If these factors are present, termination may be defined more broadly and comprise all the mobile networks of a specific country.

²⁶ Second Relevant Markets Recommendation, para.4-003, n.6, recital 4. On two-sided markets, see: Cave, Stumpf and Valletti, para.4-009, n.22, 19-28; Rochet and Tirole, "Two-Sided Markets: A Progress Report" (2003) 35(3) RAND Journal of Economics 645; Evans, "The Antitrust Economics of Multi-Sided Platform" (2003) 20 Yale Journal on Regulation 325; and the series of essays in (2007) 3(1) *Competition Policy International* 147 *et seq.*

broad, and consequently leads to an under-estimation of market power. Such a mistake is known as the "Cellophane fallacy", after a case in which the US Supreme Court fell into this trap.²⁷ Thus, regulators and competition authorities must apply the SSNIP test on the basis of a competitive price. In the absence of indications to the contrary, they should assume that the prevailing prices, being freely determined or set by regulators, are competitive.²⁸ However, if competition authorities or regulators observe that the prevailing price is higher than the competitive price should be, they should take this factor into account in defining the market and in their assessment of market power.²⁹

4-013 Market definition with bundled products—Electronic communications companies provide a multitude of services to their customers, which are often sold as a bundle or package. If there is no independent demand for the individual parts of the bundle, the bundle may be considered as a relevant market, separate from the markets for the individual services that comprise the package. Conversely, if there is evidence that, in the presence of a small but significant non-transitory increase in price, a sufficient number of customers would unpick the bundle and obtain the individual elements of the bundle separately, then it can be concluded that each service constitutes a relevant market in its own right and the bundle is not the relevant market.³⁰

4-014 In network industries products are geographically limited—There is a geographic aspect in the definition of the product dimension that should not be confused with the definition of the geographic dimension of the relevant market. The definition of the product market in a network industry may be based on the route to be followed, or on the network to be used. Ultimately, the route-by-route approach implies that every combination of two points (*e.g.* the link between two end-users) is a separate product market. Such approach has been adopted in competition cases in the air transport sector, because the time to travel is substantial and even the most frequent flyers do not fly more than several times a week.³¹ However, this approach makes less sense in the electronic communications sector when the signals travel very quickly on networks, and the tariffs are usually averaged across different routes for economic and legal reasons. In this case, it may be

²⁷ *United States v. E.I. du Pont de Nemours and Co.* 351 U.S. 377 (1956).

²⁸ SMP Guidelines, para.4-003, n.5, para.42. Regulated prices are set at levels that are intended to replicate prices in a competitive market.

²⁹ The Office of Fair Trading, the competition authority in the United Kingdom, recognised the difficulty raised by the Cellophane fallacy in Case CA98/20/2002, *BSkyB*, Decision of December 17, 2002, paras.88-97: the OFT noted that it could not rely on the prevailing price, as the market might already have been distorted, and found alternative ways of determining BSKyB's market power, by looking at the characteristics of the premium sports pay-TV channels and the preferences of viewers.

³⁰ Explanatory Note to the Second Relevant Markets Recommendation, para.4-009, n.22, 15. See also Commission Guidance of December 3, 2008 on the Commission's Enforcement Priorities in Applying Article 82 EC Treaty to Abusive Exclusionary Conduct by Dominant Undertakings, O.J. 2009 C45/7, para.50, where it is stated that: "two products are distinct if, in the absence of tying or bundling, a substantial number of customers would purchase or would have purchased the tying product without also buying the tied product from the same supplier, thereby allowing stand-alone production for both the tying and the tied product", referring to Case T-201/04, *Microsoft v Commission* [2007] E.C.R. II-3601, in particular paras.842, 859-862, 867 and 869. On bundling, see also ERG Report, "Replicability of bundles from the perspective of the availability of wholesale inputs and access to content", ERG(09) 49 (December 2009); ERG Report, "Discussion of the application of Margin Squeeze tests to bundles", ERG (09) 07 (March 2009); and OPTA, "The Bundle, the Market?", 5 Regulatory Policy Note (2007).

³¹ Case C-66/89, *Ahmed Saeed* [1989] E.C.R. I-803, paras.40-41. See Goeteyn, "Remedies in the Air Transport Sector" in Geradin, *Remedies in Network Industries: EC Competition Law vs. Sector-Specific Regulation* (Intersentia, 2004), 223.

appropriate to define the market by reference to the network or cluster of products.³² When those elements are not present, markets may be segmented on a route-by-route basis.³³ Product markets may also be defined according to the geographical component of customers' requirements, which are related to the coverage, quality, pricing and nature of the services under review. For instance, residential customers have low or average quality requirements that can be met by interconnecting different networks; hence, they tend to be less sensitive to the network coverage of their electronic communication suppliers. On the other hand, business customers can be very sensitive to the quality of the call, and therefore pay considerable attention to the network coverage under the direct control of their suppliers. Therefore, the product market for large business customers may be limited to large international networks, whereas the market for residential customers could cover more geographically limited networks.³⁴

4-015 Market definition evolves with technological developments—The implementation of new, in particular digital, technologies has completely transformed the electronic communications and broadcasting industries. Indeed, the continuing convergence of networks (*i.e.* the ability of different network platforms to carry similar kinds of services) and equipment (*i.e.* the amalgamation of consumer devices such as telephones, televisions and personal computers) has had a great impact on market definition. As market definitions evolve with technological progress and liberalisation, businesses should not rely on previous decisions continuing to be precedents for market definition. Indeed, the Commission has acknowledged that, given the pace of technological change in the electronic communications sector, any attempt to define particular product markets in its Notices and Guidelines would involve the risk of the definitions rapidly becoming inaccurate and irrelevant, although it would usually only depart from its previous practice where this is justified in light of its market analysis.³⁵ For example, the Commission's platform-dependent definition of electronic communications services as those transmitted over the public telecommunications network has become obsolete, given that services such as voice telephony are now supplied over different types of established networks (such as PSTNs, cable and utilities networks). A packet-switched network, such as the internet, may be used to transit digitised voice signals in competition with traditional voice telephony. Likewise, Digital Subscriber Line technology and multi-point video distribution services based on wireless local loops may be used for the transmission of broadcast material in direct competition with other existing television transmission systems, such as cable,

³² However, electronic communications networks may be segmented according to the economic conditions to deploy its different parts, such as the distinction between local and trunk segments: Larouche, "Relevant Market Definition in Network Industries: Air Transport and Telecommunications", (2000) 1 *Journal of Network Industries* 407, and Cave *et al.*, para.4-009, n.22, 20.

³³ SMP Guidelines, para.4-003, n.5, para.61. For instance, the markets for international voice telephony services have been defined on the basis of individual call traffic routes between a particular country pair. In respect of merger control, see Case M.856, *British Telecommunications/MCI (II)*, Commission Decision of May 14, 1997, para.19 (discussed in Ch.VII, para.7-231 *et seq.*); Case JV.15, *BT/AT&T*, Commission Decision of March 30, 1999, para.84 (discussed in Ch.VII, para.7-243 *et seq.*); and Case M.1838, *BT/Esat*, Commission Decision of February 14, 2000, para.19. In respect of sector-specific regulation, see Case UK/2003/0006, *UK wholesale international services*, Commission Comments of September 24, 2003. This may also be the case for markets for leased lines: see Case PL/2008/856, *Trunk segments of leased lines*, Commission Comments of December 23, 2008.

³⁴ Larouche, para.4-014, n.32.

³⁵ SMP Guidelines para.4-003, n.5, para.47; and Access Notice, para.4-008, n.17.

direct-to-home (DTH) satellite transmission and analogue or digital terrestrial transmission platforms.³⁶

4-016 Judicial supervision of market definitions—If the Commission fails to define properly the relevant market, its decisions may be annulled,³⁷ except if its error does not substantially affect the results of its substantive analysis,³⁸ or (in Article 101 cases) if it is self-evident that an agreement that contains a "hard-core" restriction on competition will have an appreciable effect upon competition and inter-state trade, such that it is not necessary to define precisely the relevant market.³⁹ In principle, the control by the Court of Justice and the General Court on the Commission's approach to market definition is somewhat limited, given the complex economic assessment involved in defining markets,⁴⁰ although judicial review has been far reaching in some cases.⁴¹

C. Criteria used to identify markets susceptible to sector-specific regulation

4-017 The "three criteria" test—In addition to the SSNIP test which is used to define the relevant market, the Commission and NRAs should rely on the so-called "three criteria" test to select markets that are susceptible to *ex ante* regulation. The Framework Directive provides that the Commission should only identify for *ex ante* regulation markets having characteristics that make competition law remedies insufficient to address potential competition problems.⁴² According to the Commission, a market should meet three cumulative criteria for it to be susceptible to *ex ante* regulation: (i) high and non-transitory barriers to entry; (ii) a market structure which does not tend towards effective competition within the relevant time period; and (iii) competition law alone is insufficient to address adequately the market failure(s) concerned.⁴³ To alleviate a circular reasoning, these three criteria should be assessed under the so-called "modified greenfield approach", *i.e.* in the absence of SMP regulation of the market under review, but taking into account other types of regulation.⁴⁴

4-018 First criterion: presence of high and non-transitory barriers to entry—The first criterion is mainly static and covers two categories of entry barriers that are non-transitory, *i.e.* which would not disappear during the timeframe of the market review (usually two to three years).⁴⁵ The first

³⁶ SMP Guidelines, para.4-003, n.5.

³⁷ Case 6/72, *Europemballage and Continental Can v Commission* [1973] E.C.R. 215; Cases T-68/89, etc., *Società Italiana Vetro v Commission (Italian Flat Glass)* [1992] E.C.R. II-1403.

³⁸ Case T-7/93, *Langnese-Iglo v Commission* [1995] E.C.R. II-1533 and Case T-9/93, *Schoeller v Commission* [1995] E.C.R. II-1611.

³⁹ Case T-62, *Volkswagen v Commission* [2000] E.C.R. II-2707. Indeed, in cartel cases, the Commission frequently takes the view that the participants, by their very conduct, have effectively defined the relevant market affected by it and that it does not need to define a precise relevant market.

⁴⁰ Case T-221/95, *Endemol v Commission* [1999] E.C.R. II-1299, para.106.

⁴¹ *e.g.* *France Télécom v Commission*, para.4-004, n.8, paras.78 to 91.

⁴² Framework Directive, para.4-003, n.4, Art.15(1), as clarified by recital 27.

⁴³ Second Relevant Markets Recommendation, para.4-003, n.6, Art.2 and ERG Report of June 2008 on Guidance on the application of the three criteria test, ERG(08) 21. See de Streel, "Current and future European regulation of electronic communications: A critical assessment" (2008) 32 *Telecommunications Policy* 722; and Never and Preissl, "The three-criteria test and SMP: how to get it right", (2008) 1 *Int. J. Management and Network Economics* 100.

⁴⁴ Explanatory Note to the Second Relevant Markets Recommendation, para.4-009, n.22, 8.

⁴⁵ Second Relevant Markets Recommendation, para.4-003, n.6, recitals 9 to 11.

category comprises *structural barriers* which result from original cost or demand conditions that create asymmetric conditions between incumbents and new entrants, thereby impeding or preventing market entry by the latter. This category is itself divided into two parts. The first sub-category covers the *natural monopoly* situation, for instance, the local loop. For this sub-category, the authority should consider several factors: the absolute cost advantages enjoyed by one operator, substantial economies of scale and/or scope, capacity constraints, high sunk costs and the control of legacy infrastructure difficult to duplicate. The second sub-category covers *network effects*, for instance fixed or mobile termination. For this sub-category, the authority should consider the presence of network externalities, in particular the externalities created by the calling party pays principle.⁴⁶ The second category consists of the *legal or regulatory barriers* resulting from legislative, administrative or other state measures that have a direct effect on the conditions of entry and/or the positioning of operators on the relevant market. This category covers different situations, including limits on the number of undertakings that have access to spectrum for the provision of underlying services, or price controls or other price-related measures imposed on undertakings, which affect not only entry but also the undertakings' positioning on the market.⁴⁷

4-019 Second criterion: a market structure which does not tend towards effective competition within the relevant time period—The application of the second criterion involves examining the current and future state of competition behind the barriers to entry. This criterion is less precise than the first criterion, but the thrust is to take dynamic considerations into account and not select for *ex ante* regulation markets the dynamics of which point towards effective competition within the timeframe of the market review, or even beyond this time period. The Commission gives three examples in which market dynamics would justify not selecting a market for *ex ante* regulation on this basis: (i) a market structure with a limited—but sufficient—number of undertakings that have different cost structures and face price-elastic market demand; (ii) a market with excess capacity that would allow rival firms to expand output very rapidly in response to a price increase; and (iii) technological developments, or by the convergence of products and markets, which may give rise to competitive constraints being exercised between operators active in presently distinct product markets. In practice, the authority should look at the evolution of market shares and/or prices over time to determine whether the second criterion is met.⁴⁸

4-020 Third criterion: insufficiency of competition law alone to adequately address the market failure(s) concerned—The third criterion is even less precise. Its application depends on an assessment of the sufficiency of competition law to address the market failures that result from the first two criteria being met. The Commission provides some examples of markets in which the application of competition law is unlikely to be sufficient: where an intervention to redress a market failure requires extensive compliance, or where frequent and/or timely intervention by the competition authorities is indispensable.⁴⁹ The fact that *ex ante* regulation must be complementary to the application of competition law in addressing persistent market failures should thus be seen as the decisive criterion for the application of *ex ante* regulation.

⁴⁶ See para.4-010, above.

⁴⁷ Second Relevant Markets Recommendation, para.4-003, n.6, recital 10.

⁴⁸ *ibid.*, recital 12.

⁴⁹ *ibid.*, recital 13. The third criterion seems redundant, as there is no situation in which the two first criteria would be met while the third criterion would not be met, i.e. there is no situation of structural market failure, due to high and non-transitory entry barriers and no tendency towards effective competition, that could be efficiently dealt with by competition law intervention alone. See also Never and Preissl, para.4-017, n.43, 109.

4-021 The special case of the emerging markets—The Framework Directive provides that newly emerging markets, where the market leader is *de facto* likely to have a substantial market share, should not be subjected to inappropriate regulatory obligations.⁵⁰ This provision raises two questions: (i) what is an emerging market and when is a new electronic communication service part of a relevant emerging market; and (ii) how should an emerging market be regulated?

4-022 What is an emerging market?—Emerging markets are relevant markets which can be considered to be distinct from existing markets and which are in the early phase of their development.⁵¹ A new service will be part of an emerging relevant market when it is not prospectively substitutable, from both demand- and supply-side perspectives, to existing services.⁵² This means that (i) consumers of the new service would not switch to currently available services, in response to a small but significant non-transitory increase in the price of the new service, and (ii), firms currently providing existing services would not be in a position to enter quickly the market for the new service in response to such a price increase. As, in the early phase of the development of a new product, it may be difficult to identify any switching pattern with existing products, market definition may be based on forecasts of likely future customer behaviour. If forecasts determine that the upgraded or newly developed product will be a substitute for the existing product and the latter will disappear over time from the market, then the upgraded or newly developed product cannot constitute a distinct new market.⁵³ Similarly, a technological upgrade to an existing network, which will be used mainly to provide equivalent or incrementally improved services, is unlikely to be part of a separate market.⁵⁴ Conversely, if both products will not be substitutable over time from both demand- and supply-side perspectives, then they form two different markets and the new product constitutes an emerging market. These principles have been applied by the Commission in relation to the regulation of access to Next Generation Access Networks: it considers that, in general, the deployment of NGA networks does not lead to new emerging separate relevant markets.⁵⁵

4-023 How should an emerging market be regulated?—The Regulatory Framework provides on the one hand, that emerging markets should not be subject to inappropriate obligations, and, on the other hand, that foreclosure of such markets by leading undertakings should be prevented.⁵⁶ Thus, new emerging markets are not shielded from regulation, but NRAs should proceed cautiously when intervening in those markets,⁵⁷ in particular to preserve incentives to invest and to

⁵⁰ Framework Directive, para.4-003, n.4, recital 27.

⁵¹ The Court of First Instance suggested that 3G mobile could, in the early 2000s, have been an emerging market: Case T-328/03, *O2 Germany v Commission* [2006] E.C.R. II-1231, para.72. On the notion of emerging markets, see also Baake, Kamecke and Wey, "Efficient Regulation of Dynamic Telecommunications Markets and the New Regulatory Framework in Europe" in Dewenter and Haucap (eds.), *Access Pricing: Theory and Practice* (Elsevier, 2007), 328; Indepen and Ovum, *Regulating Emerging Markets?* (Study prepared for OPTA, 2005).

⁵² Second Relevant Markets Recommendation, para.4-003, n.6, recital 7.

⁵³ Explanatory Note to the Second Markets Recommendation, para.4-009, n.22, 18 and Case DE/2005/262, *Wholesale Broadband Access*, Commission Comments of November 11, 2005.

⁵⁴ ERG Revised Common Position of May 2006 on the approach to appropriate remedies in the new regulatory framework, ERG(06) 33 ("ERG Revised Common Position on Remedies"), 19.

⁵⁵ Commission Second Draft Recommendation on regulated access to Next Generation Access Networks (June 12, 2009) ("Second draft Recommendation on NGA"): see paras.1-250, 1-267 *et seq.* and 1-280.

⁵⁶ 2002 Framework Directive, para.4-003, n.4, recital 27; SMP Chapter I Guidelines, para.4-003, n.5, para.32; Second Relevant Markets Recommendation, para.4-003, n.6, recital 7. See also Better Regulation Directive, para.4-003, n.4, recital 8.

⁵⁷ Case C-424/07, *Commission v Germany*, judgment of December 3, 2009, not yet reported, paras.64 and 73; Second draft Recommendation on NGA, para.4-022, n.56, Annex I.

innovate.⁵⁸ This means that although an investment has been made under competitive conditions, and not in the context of an existing legal monopoly, it may nevertheless be subject to *ex ante* regulation (i.e. *ex ante* regulation is not limited to the infrastructure existing before liberalisation took place). In practice, new markets will not be regulated in the early phase of their development, when they are emerging, as they are too unstable to allow an NRA to establish whether the three criteria test will be met.⁵⁹ However, once markets mature, the three criteria test will be applied and, depending on the result, the (previously emerging) markets may become subject to *ex ante* regulation.

D. The definition of the product market

4-024 Product market definition under sector-specific regulation and under competition law—Since the 2002 alignment of the principles used to apply competition law and sector-specific *ex ante* regulation, product markets are defined in the same way when applying both sector-specific regulation and competition law. The starting point of the examination of markets for the purpose of market definition is to first characterise the retail markets, followed by a description of the related wholesale markets. Retail markets should, in principle, be analysed in a way that is independent of the network or infrastructure being used to provide the services, in accordance with the principle of technological neutrality.

4-025 Commission's First Relevant Markets Recommendation of February 2003—The Commission has made a general division between services provided at fixed locations and those provided at non-fixed locations (i.e. mobile communications) as well as between voice services and non-voice (e.g. data) services.⁶⁰ On this basis, in its First Relevant Markets Recommendation, adopted in February 2003, the Commission identified 18 markets that met the three criteria test for possible *ex ante* regulation and defined these markets in accordance with competition law methodologies. NRAs were able, in certain circumstances, to deviate from the markets defined in the Commission's Relevant Markets Recommendations,⁶¹ although they tended to follow the definitions laid down by the Commission.⁶²

4-026 Fixed telephony services—Regarding the provision of fixed telephony services, the Commission identified the following relevant markets:

⁵⁸ Thus, the existence of an emerging market is not an additional test to determine the scope of *ex ante* regulation, the only test being the three criteria test: ERG Revised Common Position on Remedies, para.4-022, n.54, 19.

⁵⁹ Second Relevant Markets Recommendation, para.4-003, n.6, recital 7 and ERG Revised Common Position of May 2006 on Remedies, para.4-023, n.54. When a market is emerging, the SSNIP test is also not applicable: Case 36.539 *British Interactive Broadcasting*, O.J. 1999 L312/1 (discussed in Ch.VII, para.7-685 *et seq.*).

⁶⁰ Explanatory Note to the Second Markets Recommendation, para.4-009, n.22, 20. These distinctions do not, however, imply that these services constitute separate product markets. Furthermore, at the wholesale level, the distinction between voice and data services may not be so easy to make; for example, a network may carry both voice and non-voice/data services.

⁶¹ See Ch.I, para.1-221.

⁶² ERG Report of July 15, 2005 on Experiences with Market Definition, Market Analysis and Applied Remedies, ERG(05) 51; Communication from the Commission of July 11, 2007 on market reviews under the EU Regulatory Framework (Second Report), COM(2007) 401.

- two retail access markets: (i) narrowband access for residential customers to the public telephone network at a fixed location (or address) for making and receiving calls (market 1/2003); and (ii) narrowband access for non-residential (i.e. business) customers to the public telephone network at a fixed location for making and receiving calls (market 2/2003). Most NRAs followed the segmentation between residential and non-residential customers. Some NRAs defined the retail access markets on the basis of different levels of access (mainly PSTN or ISDN) and certain NRAs included in both markets alternative means of access, including optical cable and local area networks.
- four retail services markets: (i) publicly available local and/or national telephone services provided at a fixed location (including fixed-to-mobile calls) for residential customers (market 3/2003); (ii) publicly available international telephone services provided at a fixed location for residential customers (market 4/2003); (iii) publicly available local and/or national telephone services provided at a fixed location (including fixed-to-mobile calls) for non-residential customers (market 5/2003); and (iv) publicly available international telephone services provided at a fixed location for non-residential customers (market 6/2003).
- three markets at the wholesale level: (i) call origination (originating access or interconnection) on all networks serving a fixed location (market 8/2003), although whilst most NRAs applied this definition, some have applied a broader definition of the market; (ii) call termination on each individual network (market 9/2003); and (iii) transit services or call conveyance in the fixed public telephone network (market 10/2003),⁶³ although whilst most NRAs applied this market definition, some have segmented the market according to the bandwidth of the transit lines.

4-027 Fixed broadband data services—Regarding the provision of fixed broadband data services, the Commission did not identify any retail markets, but did identify two wholesale markets: (i) unbundled access (including shared access) to metallic loops and sub-loops (market 11/2003) and (ii) wholesale broadband access (market 12/2003):

- unbundling market covered the "last mile" of the public fixed telecommunications network connecting the subscriber to the local exchange or to the main distribution frame, so was limited to the copper pair and did not cover other technologies such as optic fibre. Unbundled access enables new entrants to provide both voice and data services to end users over the local loop rented from the incumbent.
- wholesale broadband access market included "bit-stream" access that permits transmission of broadband data in both directions over the incumbent's PSTN, as well as other wholesale access provided over alternative infrastructures that offer facilities equivalent to bit-stream, for the purpose of providing broadband services. Wholesale broadband access enables new entrants to provide retail broadband access

⁶³ The main elements to produce or supply retail telephone services are call origination, call conveyance of varying kinds (transmission, transit interconnection, etc.) and call termination. Call conveyance or transit interconnection involves transmission and/or switching or routing. For an undertaking providing services to a limited number of end-users, an alternative to using wholesale call conveyance services could be to use interconnected leased lines or dedicated trunk capacity. As call conveyance typically includes switching or routing, it is, however, considered to be a separate wholesale market from the leased lines market.

services to end-users by relying on their own backbone network in combination with access to the middle and lower parts of the incumbent's network. Such access is generally considered as an essential stepping stone for new entrants towards investment in a full-scale own network roll-out on the basis of local loop unbundling (the so-called "ladder of investment" theory).⁶⁴

4-028 Dedicated connections and capacity (leased lines)—Regarding the provision of dedicated connections and capacity (leased lines), the Commission identified the following relevant markets:

- one retail market, which corresponded to the market for the provision of retail leased lines up to and including 2 Mbit/s in the minimum harmonised set specified by the Universal Service Directive (market 7/2003).⁶⁵
- two wholesale markets: (i) the terminating segments of leased lines (market 13/2003); and (ii) the trunk segments of leased lines (market 14/2003). As the precise delineation between the trunk and terminating segments of leased lines is highly dependent on the network topology of each Member State, this delineation varied significantly between Member States. Moreover, some NRAs segmented the wholesale leased lines markets according to bandwidth. Finally, several NRAs included leased lines with alternative interfaces (in particular Ethernet) in the wholesale leased lines markets, because they are functionally equivalent to wholesale leased lines with traditional interfaces.

4-029 Mobile services—Regarding the provision of mobile services, the Commission did not identify any retail markets, as none met the three criteria test, but did identify three wholesale markets: (i) access and call origination on all public telephone networks, including SMS (market 15/2003);⁶⁶ (ii) voice call termination on individual mobile networks (thus excluding SMS and data services) (market 16/2003); and (iii) international roaming services on all public mobile telephone networks (market 17/2003).⁶⁷

⁶⁴ On this theory, see Cave, "Encouraging infrastructure competition via the ladder of investment" (2006) 30 *Telecommunications Policy* 223. For a critique of such theory, see: Bourreau, Dogan and Manant, "A critical review of the ladder of investment approach" (Working Paper ESS-09-06, 2009), available at: <http://ses.telecom-paristech.fr/bourreau/wp.html>.

⁶⁵ Directive 2002/22 of March 7, 2002 on universal service and users' rights relating to electronic communications networks and services, O.J. 2002 L108/51, Art.18 ("Universal Service Directive") and Decision 2003/548 of July 24, 2003 on the minimum set of leased lines with harmonised characteristics and associated standards referred to in Article 18 of the Universal Service Directive, O.J. 2003 L186/43. Art.18 of the Universal Service Directive was repealed by Directive 2009/136 of November 25, 2009 amending Directives 2002/22 and 2002/58 and Regulation 2006/2004 ("Citizens' Rights Directive"), O.J. 2009 L337/11.

⁶⁶ In applying competition law, the Commission has defined retail mobile access and call origination services to end-users on all national mobile networks without segmenting between corporate and private customers, between post-paid and pre-paid customers, or between 2G/GSM and 3G/UMTS technologies: Case M.4947, *Vodafone/Tele2 Italy/Tele2 Spain*, Commission Decision of November 27, 2007, para.14 (discussed in Ch.VII, para.7-295 *et seq.*); Case M.4748, *T-Mobile/Orange Netherlands*, Commission Decision of August 20, 2007, para.9 (discussed in Ch.VII, para.7-412 *et seq.*); Case M.3916, *T-Mobile Austria/tele.ring*, Commission Decision of April 26, 2006 (discussed in Ch.VII, para.7-405 *et seq.*); Case M.3530, *TeliaSonera/Orange Denmark*, Commission Decision of September 24, 2004 (discussed in Ch.VII, para.7-364 *et seq.*); and Case M.3245, *Vodafone/SinglePoint*, Commission Decision of September 16, 2003.

⁶⁷ In the application of competition law, the market for wholesale access to international roaming services

4-030 Broadcast transmission services—The Commission did not identify any retail markets for the provision of broadcasting services to end-users (*i.e.* consumers), as services providing or exercising control over content transmitted using electronic communications fall outside the definition of "electronic communication services" under the Framework Directive.⁶⁸ This means that, in practice, retail broadcasting markets are only subject to competition law and regulation under national broadcasting legislation (including where this has been harmonised at the EU level⁶⁹). At the wholesale level, the Commission identified a market for the provision of broadcast transmission services that deliver broadcast content to end-users (market 18/2003). Most NRAs have segmented this market in accordance with their different national circumstances, into various more narrowly defined product markets on the basis of the platform used (cable, satellite or terrestrial), the transmission mode (analogue or digital), the geographical coverage of the network (local or national) and/or the signal transmitted (radio or television). No additional wholesale market has been identified by the Commission. In particular, the Commission did not identify a market for conditional access systems, because open access obligations apply in any event to all operators of such systems, regardless of any market analysis, by virtue of the provisions of the Access Directive.⁷⁰

4-031 Commission's Second Relevant Markets Recommendation of December 2007—In December 2007, the Commission updated its First Relevant Markets Recommendation, to take into account the technological, market and competitive developments since its adoption in 2003. The Commission removed several markets from the Recommendation because they no longer met the three criteria test at the European level. However, individual NRAs may continue to regulate a market which has been removed from the Second Relevant Markets Recommendation if it meets the three criteria test on its national territory and many NRAs have continued to regulate some of the removed markets,⁷¹ thereby limiting the impact of the Commission's deregulatory move.

4-032 Fixed voice telephony—Regarding the provision of fixed voice telephony services, the Commission has maintained its definition of the following relevant markets:

- one retail market, *i.e.* narrowband access⁷² to the public telephone network at a fixed

was initially defined as a distinct market for each individual mobile network because initial roaming technology did not allow traffic direction, *i.e.* the possibility for the mobile network of the roamed customer to choose a particular roamed network in a foreign country. Later, the international roaming market was expanded to include all mobile networks of a given territory when traffic direction techniques became effective: Case M.4035, *Telefónica/O2*, Commission Decision of January 10, 2006 (discussed in Ch.VII, para.7-394 *et seq.*); *T-Mobile Austria/tele.ring*, para.4-028, n.66; and *T-Mobile/Orange Netherlands*, para.4-028, n.66, para.25.

⁶⁸ Framework Directive, para.4-003, n.4, Art.2(c).

⁶⁹ See para.2-017 *et seq.*, above.

⁷⁰ Directive 2002/19 of March 7, 2002 on access to, and interconnection of, electronic communications networks and associated facilities, O.J. 2002 L108/7, Arts.5 and 6, in conjunction with Annex I; see para.2-130 *et seq.*, above.

⁷¹ Information on the current status of *ex ante* market regulation by NRAs can be found on the Commission's website at http://ec.europa.eu/information_society/policy/comm/implementation_enforcement/article_7/index_en.htm.

⁷² Narrowband and broadband access comprise two separate markets, because the substitution between them is asymmetrical; *i.e.* whilst customers will migrate from narrowband to broadband in case of an increase in the price of narrowband access, they will not migrate from broadband to narrowband in case of an increase in the price of broadband access: Explanatory Note to the Second Relevant Markets Recommendation, para.4-009, n.22, 22 and 30.

location for making and receiving calls, which may comprise different technologies, including copper, fibre and wireless local loop (market 1/2007). This market is no longer segmented according to customer type, as contractual terms of access in most Member States do not significantly and systematically differ between residential and non-residential customers. In addition, the Commission removed the four retail services markets⁷³ because they were found to be competitive in many Member States, and if regulation is properly applied at the wholesale level, there should not be market failure at the retail level.⁷⁴

- two markets at the wholesale level: (i) call origination on the public telephone network provided at a fixed location⁷⁵ (market 2/2007), and (ii) call termination on individual public telephone networks provided at a fixed location⁷⁶ (market 3/2007). The Commission removed the transit market, as it was found to be competitive in several Member States and the three criteria test was no longer met.

4-033 Fixed broadband data services—Regarding the provision of fixed broadband data services, the Commission identified two wholesale markets that, although appearing to be similar than those identified in the First Relevant Markets Recommendation,⁷⁷ are in fact defined more broadly:

- physical network infrastructure access (including shared or fully unbundled access) at a fixed location, which comprises—in principle—all broadband technologies, including xDSL, FTTH and optical fibre, and wireless local loop (market 4/2007).⁷⁸ As a result, this market is no longer limited to the copper network (as was the case with market 11/2003), but may include Next Generation Access networks.
- wholesale broadband access, which comprises non-physical or virtual network access

⁷³ See para.4-026, above.

⁷⁴ Gurpegui and Kordasiewicz, "Solving problems at the source: why telecommunication regulation should focus on wholesale, not retail, markets" (2007) 1 *Competition Policy Newsletter* 49. When applying EU competition law, the Commission has continued to define retail fixed voice telephony services market, possibly segmented between different types of customers (i.e. residential/small business and large business/corporate customers) and different types of calls (i.e. local calls, national calls, international calls, calls to mobile, assisted calls): Case M.5532, *Carphone Warehouse/Tiscali UK*, Commission Decision of June 29, 2009, para.57 (discussed in Ch.VII, para.7-312 *et seq.*). The Commission considered that managed VoIP can (because of its guaranteed quality) be part of the same relevant market as fixed-line telephony, but that unmanaged VoIP is part of a different relevant market: *ibid.*, para.38.

⁷⁵ This market includes call conveyance delineated in such a way as to be consistent, in a national context, with the delineated boundaries for the markets for call transit and call termination on the public telephone network provided at a fixed location: Second Relevant Markets Recommendation, para.4-003, n.6, Annex.

⁷⁶ This market includes call conveyance delineated in such a way as to be consistent, in a national context, with the delineated boundaries for the markets for call origination and call transit on the public telephone network provided at a fixed location: *ibid.*

⁷⁷ In applying EU competition law, the Commission has distinguished distinct wholesale markets for unbundled local loops and bitstream access: *Carphone Warehouse/Tiscali UK*, para.4-032, n.74, para.33.

⁷⁸ Explanatory Note to the Second Relevant Markets Recommendation, para.4-009, n.22, 31-35, and Second draft Recommendation on NGA, para.4-022, n.56, paras.9-31; Case IE/2009/0875, *Wholesale (physical) network infrastructure access (including shared or fully unbundled access) at a fixed location*, Commission Comments of February 20, 2009; Case DK/2008/0860, *Wholesale (physical) network infrastructure access at a fixed location*, Commission Comments of February 2, 2009; Case PT/2008/0850, para.4-009, n.22.

including 'bit-stream' access at a fixed location and including—in principle—technologies for Next Generation Access networks⁷⁹ (market 5/2007). This market is downstream from the physical network infrastructure access market, as wholesale broadband access can be constructed using this input combined with other elements.⁸⁰ One difficult issue is whether cable should be part of the wholesale broadband access market. NRAs in many of the Member States in which cable has been extensively deployed have considered that cable is part of the same wholesale market as copper lines, because wholesale access to cable may exercise a direct and/or an indirect constraint on the price of the wholesale access to copper.⁸¹ Cable imposes a direct constraint if a wholesale access seeker will switch from copper to cable if the price of access to a copper network increases. There is an indirect constraint from cable networks if retail broadband users will switch from xDSL to cable access if the price of xDSL access increases as a result of an increase in the price of wholesale copper access.⁸² The Commission generally considers that cable does not form part of the wholesale broadband access market: it considers that cable does not impose either a direct constraint (as there is often no wholesale access offer to cable and such access is technologically or economically difficult) or an effective indirect constraint (as any constraint is generally too weak to be considered at the stage of market definition and should only be taken into account at the stage of SMP assessment).⁸³ According to the Commission, an indirect constraint on the pricing of wholesale access may only be taken into account at the market definition stage when the following circumstances are present: (i) ISPs would be forced to pass a hypothetical wholesale price increase on to their consumers at the retail level based on the wholesale/retail price

⁷⁹ Second draft Recommendation on NGA, para.4-022, n.56, paras.32-42. Given their particular national characteristics, some NRAs have not included FTTH in the wholesale broadband market: see, e.g., Case AT/2009/970, *Wholesale broadband access (WBA) in Austria*, Commission withdrawal of serious doubts and Comments of December 7, 2009. Similarly, the Spanish NRA wanted to limit the wholesale broadband market to 30 Mbit/s, but removed this ceiling to avoid the Commission adopting a veto: Case ES/2008/805, *Wholesale broadband access*, Commission withdrawal of serious doubts and Comments of December 26, 2008. Moreover, most of the NRAs that have included FTTH in the relevant market did not impose remedies on fibre: see e.g. Case DK/2008/862, *Wholesale broadband access in Denmark*, Commission Comments of March 9, 2009; and Case NL/2008/827, *Wholesale broadband access*, Commission Comments of December 8, 2008.

⁸⁰ The Commission notes that these two wholesale markets may remain distinct, or conceivably could merge into one, depending on the way in which network upgrades occur or the particular demand and supply conditions evolve in Member States: Explanatory Note to the Second Relevant Markets Recommendation, para.4-009, n.22, 35.

⁸¹ ERG Common Position of May 25, 2005 on Bitstream Access, ERG(03) 33rev2 and BEREC, "Report on self-supply", para.4-009, n.22. See Case UK/2007/0733, para.4-009, n.22; Case NL/2008/827, para.4-033, n.79; Case PT/2008/0851, *Wholesale broadband access*, Commission Comments of January 5, 2009; Case DK/2008/0862, para.4-033, n.79; and Case FI/2009/900, *Wholesale broadband access*, Commission Comments of April 20, 2009.

⁸² See Schwarz, "Wholesale market definition in telecommunications: The issue of wholesale broadband access" (2007) 31 *Telecommunications Policy* 251, showing that the importance of the indirect price constraint depends inter alia of the retail elasticity between DSL and cable products and of the importance of the wholesale costs in the retail prices; CRA, "Indirect Constraints and Captive Sales: Overview of Regulatory Practice and Competition Case Law" (Report for OFCOM, May 2006); Decisio, *The Principles of Indirect Pricing Constraints in market Analysis* (Report for OFCOM, 2007); and Inderst and Valletti, "Market analysis in the presence of indirect constraints and captive sales" (2008) 3(2) *Journal of Competition Law and Economics* 203.

⁸³ Explanatory Note to the Second Relevant Markets Recommendation, para.4-009, n.22, 30-34.

ratio; (ii) there would be sufficient demand substitution at the retail level as to render the wholesale price increase unprofitable; and (iii) the ISPs' customers would not, to a significant extent, switch to the retail business of the integrated hypothetical monopolist, in particular if the latter does not raise its own retail prices.⁸⁴

4-034 Leased lines—Regarding the provision of leased lines, the Commission has maintained only one market, for wholesale terminating segments of leased lines, irrespective of the technology used to provide the leased or dedicated capacity such as Ethernet, SDH and PDH (market 6/2007). Some NRAs have further segmented this market according to bandwidth.⁸⁵

4-035 Mobile services—Regarding the provision of mobile services, the Commission has maintained only one market for voice call termination (thus excluding SMS and data services) on individual mobile networks, irrespective of the technology used (*i.e.* 2G/GSM, 3G/UMTS, etc.) (market 7/2007).⁸⁶ The Commission removed the market for access and call origination because it no longer satisfied the three criteria test and was found to be competitive in most Member States. The Commission also removed the international roaming market, because it is now subject to specific regulation pursuant to the Roaming Regulation.⁸⁷

4-036 The definition of markets under competition law—In addition to the markets identified in its 2003 and 2007 Relevant Markets Recommendations, the Commission has defined several additional markets when applying EU competition law, principally under the Merger Control Regulation, but also under Articles 101 and 102. These markets may be classified into six categories: (i) fixed line networks, telephony and related services; (ii) mobile networks, telephony and related services; (iii) internet networks, access and related services; (iv) television and radio broadcasting; (v) satellite networks, services and equipment; and (vi) telecommunications equipment and related services.

4-037 Criteria most commonly used by the Commission in defining the relevant market in the electronic communications sector—In line with the methodology set out in its on Market Definition Notice,⁸⁸ the Commission relies primarily on demand-side substitutability to define the relevant product market. For example, the Commission has defined separate markets for fixed and mobile telephony because there is no demand-substitution between them⁸⁹ and evidence has shown that

⁸⁴ Case UK/2007/733, para.4-009, n.22; Case ES/2008/805, *Wholesale network access and wholesale broadband access*, Commission Opening of Phase II investigation of November 13, 2008, 9; Case NL/2008/826, *Wholesale access to the local loop for broadband and/or voice services*, Commission Comments of December 8, 2008, 7; and Case FI/2009/900, para.4-033, n.81.

⁸⁵ Case AT/2009/932, *Wholesale terminating segments of leased lines*, Commission Comments of July 9, 2009.

⁸⁶ Market 7/2007 excludes SMS termination, but the Commission has noted that "to the extent that the exchange and termination of SMS are considered to result in similar market power problems (than those of voice call termination), it is open to NRAs to consider defining and notifying an additional separate market for SMS": *ibid.*, para.44. See Case FR/2006/413, *Wholesale SMS termination services*, Commission Comments of July 14, 2006.

⁸⁷ Regulation 717/2007 of June 27, 2007 on roaming on public mobile telephone networks within the Community and amending Directive 2002/21, O.J. 2002 L171/32 ("Roaming Regulation"), as amended by Regulation 544/2009 of June 18, 2009 amending Regulation 717/2007 and Directive 2002/21, O.J. 2009 L167/12 ("Roaming Amendment Regulation"): see Ch.I, paras.1-348 *et seq.*

⁸⁸ Notice on Market Definition, para.4-001, n.1.

⁸⁹ See Second Relevant Markets Recommendation, para.4-003, n.6. However, there might be some exceptions, where there is limited fixed penetration, *e.g.* in Romania: see Case M.5148, *Deutsche Telekom/OTE*, Commission Decision of October 2, 2008 (discussed in Ch.VII, para.7-300 *et seq.*).

customers do not generally cancel a fixed telephone subscription when they buy a mobile telephone. Other criteria taken into consideration by the Commission include: (i) price differentials between products (which also explains the segmentation between fixed and mobile telephony);⁹⁰ (ii) different payment structures (which explains the segmentation between cable and satellite television);⁹¹ (iii) different product characteristics (which explains the segmentation between pay-television and free access television);⁹² and (iv) the existence of specific customer groups (which explains the segmentation between enhanced telecommunications for international corporations, and telecommunications for travelling customers).⁹³

4-038 Fixed line networks, telephony and related services—The Commission has defined the following markets for *wholesale fixed networks and services*:⁹⁴ carrier's carrier services/international wholesale carrier services; transit services in fixed networks; transmission capacity; wholesale call origination services in fixed networks; wholesale call termination services on fixed networks; wholesale access to the local loop and wholesale access services to fixed networks; and wholesale leased lines. It has defined the following markets for *retail fixed voice telephony services*:⁹⁵ basic telecommunications services (*i.e.* voice telephony, leased lines, mobile telephony and telex); domestic and international voice telecommunications services; end-to-end international voice telephony services; fixed line telecommunications services; fixed telephony services; local, long-distance and international telephone services; public pay-phones; retail access to the local loop, retail access to the public telephone network at a fixed location, or local loop telephone services; retail call origination services in fixed networks; retail leased lines; telephone directory publishing; and voice telephony. The Commission has also defined the following markets for *data, value added and corporate services*:⁹⁶ audio-conferencing; business data communications services; corporate communications services; corporate networks; data transmission services; domestic and international data telecommunications services; enhanced global telecommunications services (GTS); managed Data Network Services (MDNS); packet-switched data communications services; traveller services; and value-added services.

4-039 Mobile networks, telephony and related services—The Commission has defined the following markets for *wholesale mobile networks and services*:⁹⁷ call termination on individual mobile networks or wholesale call termination on public mobile networks; wholesale access to and call origination on public mobile telephone networks; wholesale access to 3G national roaming; wholesale national GSM network airtime supplied to resellers and one stop shop GSM telephony services; wholesale access to international roaming on public mobile networks; wholesale access (SMS) to mobile telephony infrastructure, SMS platforms and connectivity to the international signalling network. It has also defined the following markets for *retail mobile services*:⁹⁸ mobile telephony; pan-Nordic mobile telecommunications services; and seamless pan-European mobile

⁹⁰ See SMP Guidelines, para.4-003, n.5, paras.60-61.

⁹¹ See, *e.g.*, Case M.469, *MSG Media Service*, Commission Decision of November 9, 1994 (discussed in Ch.VII, para.7-426 *et seq.*).

⁹² *ibid.*

⁹³ See, *e.g.*, Case 35.617, *Phoenix/Global One*, Commission Decision of July 17, 1996 (discussed in Ch.VII, para.7-599 *et seq.*).

⁹⁴ See Appendix 2, section 2(a), for references to the relevant cases.

⁹⁵ *ibid.*, section 2(b), for references to the relevant cases.

⁹⁶ *ibid.*, section 2(c), for references to the relevant cases.

⁹⁷ *ibid.*, section 3(a), for references to the relevant cases.

⁹⁸ *ibid.*, section 3(b), for references to the relevant cases.

telecommunications services to internationally mobile customers; and the following markets for *non-cellular mobile services*:⁹⁹ paging; and traffic telematics services.

4-040 Internet networks, access and related services—The Commission has defined the following markets for *backbone and wholesale internet networks and services*:¹⁰⁰ host to point of presence access services; “top-level” or “universal” internet connectivity services; wholesale broadband access; and wholesale ISP services. For *retail internet access (narrowband, broadband and mobile)*, the Commission has defined the following markets:¹⁰¹ internet access provided to residential and SME customers; broadband/triple-play services provided over cable TV networks; dedicated internet access for corporate customers; internet access through digital TV set top boxes; mobile internet access; and public WLAN services. It has also defined the following markets for *internet portals and other services provided using the internet*:¹⁰² IP-based extranet services for the financial community; internet advertising; internet portal services; online medical services for professional users; online music delivery (both downloading and streaming); and paid-for content on the internet.

4-041 Television and radio broadcasting—The Commission has defined the following markets for *television and radio transmission networks*:¹⁰³ transmission and distribution of radio and television signals in Germany; terrestrial transmission of television and radio programmes; infrastructure for broadcasting content to handheld devices; satellite transponder capacity for television broadcasting; and wholesale distribution of radio and television signals via cable networks. It has also defined the following markets for *television and radio broadcasting*:¹⁰⁴ digital interactive television services; free-to-air television and the provision of television advertising; free to air radio and the provision of radio advertising; pay-TV; and retail distribution of pay-TV channels. The Commission has defined the following markets for *broadcasting rights, programme and channel production and related activities*:¹⁰⁵ broadcasting rights for films and premium films; broadcasting rights for sports events in particular football; production and wholesale supply of television channels. Finally, it has defined a number of markets for *technical and other services provided to broadcasters*:¹⁰⁶ mobile production of broadcasting signals; technical and administrative services for pay-TV and digital interactive TV services.

4-042 Satellite networks, services and equipment—The Commission has identified the following markets for the *production of satellites and related equipment*:¹⁰⁷ space systems; and satellite ground stations. It has also identified distinct markets for *satellite networks and services*:¹⁰⁸ satellite personal communication services; and wholesale and retail two-way satellite communications services.

4-043 Telecommunications equipment and related services—The Commission has identified many distinct markets for different types of telecommunications equipment and related services. In respect of *fixed network equipment*, the Commission has defined markets for:¹⁰⁹ access network systems and equipment; broadband access equipment including digital subscriber line equipment;

cable/wireline transmission systems and equipment; core digital network equipment, including TDM switches and softswitch solutions; data networking equipment—LAN and WAN equipment; digital cross-connect systems; microwave radio transmission equipment; optical transmission products; public switching systems; submarine telecommunications systems and equipment; telecommunications cables; telecommunications networks management systems; WLAN equipment; and wireless mesh network product. It has also defined the following markets for *mobile network equipment*:¹¹⁰ the Commission defined markets for: core network system equipment; network management and business management systems software; radio access network equipment; and SMS platforms. In the *broadcast transmission equipment* sector, the Commission has defined markets for radio transmission and distribution equipment.¹¹¹ It has also defined a number of distinct markets for *services provided to fixed and mobile network operators and service providers*:¹¹² associated mobile and fixed-line services; call centre services; billing services; mobile messaging systems; infrastructure site hosting and related services for mobile and wireless broadband networks; and telecommunications and engineering consulting. Finally, the Commission has defined markets for different types of *customer and consumer equipment*:¹¹³ answering machines; cable customer premises equipment; electronic consumer communications terminals including telephones and fax machines; customer premises equipment; digital power line products; digital set-top boxes; mobile/cellular phone handsets; home networking products and technologies; on-site paging systems and related equipment; pagers; private telecommunications systems, private branch exchanges (PBXs) and automatic branch exchanges (PABXs); private mobile radio terminals; public pay-phones and private pay-phones; and wireless information devices.

E. The definition of the geographic market

4-044 Relevant geographic market—A geographic market is an area in which: (i) businesses enter into competition with each other; and (ii) the objective conditions of competition applying to the products or services in question are similar for all traders.¹¹⁴ The definition of the relevant geographic market should not be confused with the geographical dimension of the relevant product market (which is due to the fact that products in network industries are geographically bounded).¹¹⁵ The difference between these concepts is not always easy to apply and, in practice, there has been some confusion, but the geographic market definition is related more to the supply side, whereas the geographic dimension of the product market is related more to the characteristics of the demand side. In the electronic communications sector, the geographical scope of the relevant product market has traditionally been determined by reference to two main criteria: (i) the area covered by a network; and (ii) the existence of legal and other regulatory instruments that could prevent the cross-border provision of services or networks.¹¹⁶ In the media sector, the Commission

⁹⁹ *ibid.*, section 3(c), for references to the relevant cases.

¹⁰⁰ *ibid.*, section 4(a), for references to the relevant cases.

¹⁰¹ *ibid.*, section 4(b), for references to the relevant cases.

¹⁰² *ibid.*, section 4(c), for references to the relevant cases.

¹⁰³ *ibid.*, section 5(a), for references to the relevant cases.

¹⁰⁴ *ibid.*, section 5(b), for references to the relevant cases.

¹⁰⁵ *ibid.*, section 5(c), for references to the relevant cases.

¹⁰⁶ *ibid.*, section 5(d), for references to the relevant cases.

¹⁰⁷ *ibid.*, section 6(a), for references to the relevant cases.

¹⁰⁸ *ibid.*, section 6(b), for references to the relevant cases.

¹⁰⁹ *ibid.*, section 7(a), for references to the relevant cases.

¹¹⁰ *ibid.*, section 7(b), for references to the relevant cases.

¹¹¹ *ibid.*, section 7(c), for references to the relevant cases.

¹¹² *ibid.*, section 7(d), for references to the relevant cases.

¹¹³ *ibid.*, section 7(e), for references to the relevant cases.

¹¹⁴ Case 27/76, *United Brands v Commission* [1978] E.C.R. 207, para.44. See also Market Definition Notice, para.4-001, n.1, para.8.

¹¹⁵ See para.4-014, above.

¹¹⁶ SMP Guidelines, para.4-003, n.5, para.59. See also e.g. *T-Mobile/Orange Netherlands*, para.4-029, n.66, paras.18 and 27.

has also taken into account the characteristics of the viewers and the homogeneity of linguistic areas that cross national borders.¹¹⁷ On the basis of these principal criteria, geographic markets may cover part or all of the territories of two or more countries (for instance, regional markets covering an area with a common language, e.g. French-speaking, Dutch-speaking or German-speaking; or areas that are wider than one country, e.g. pan-European, EEA-wide or global markets), national or sub-national (i.e. smaller than an entire country).

4-045 Some markets are broader than the territory of a Member State—As a consequence of the liberalisation of the electronic communications sector and the harmonisation of technical standards and authorisation procedures across the EU, electronic communications services and equipment can increasingly be provided or sold, and networks operated, across national borders without restrictions. Increasingly, customers are no longer limited to local suppliers but may turn to alternative suppliers located abroad. As a result, the Commission has started to extend gradually the geographic dimension of certain markets.

4-046 Examples of markets that are broader than national—The Framework Directive provides that the Commission may, when applying its powers under the regime of sector-specific regulation of the Regulatory Framework, adopt a decision identifying transnational markets that are susceptible to *ex ante* regulation, i.e. markets that cover the EU, or a substantial part of it, and that meet the three criteria test.¹¹⁸ However, the Commission has not yet adopted such a decision. The Commission has found, when applying EU competition law, that several markets have a geographic scope that extends, or may extend, beyond national boundaries:

- In the fixed segment: carrier's carrier services/international wholesale carrier services, Pan-Nordic corporate communications services, enhanced global telecommunications services (GTS), traveller services, and value-added services;¹¹⁹
- In the mobile segment: one stop shop GSM telephony services, wholesale access (SMS) to mobile telephony infrastructure, SMS platforms and connectivity to the international signalling network, Pan-Nordic mobile telecommunications services, and seamless pan-European mobile telecommunications services to internationally mobile customers;¹²⁰
- In the internet segment: "top-level" or "universal" internet connectivity services, and IP-based extranet services for the financial community;¹²¹
- In the broadcasting segment: mobile production of broadcasting signals;¹²² and
- And most of the markets in the satellite¹²³ and equipment segments.¹²⁴

4-047 Most markets remain national—Most of the electronic communications markets may be considered to be national for reasons relating to the physical characteristics or capacity of a network (i.e. the area covered by the network) or for regulatory reasons (i.e. the area in which

¹¹⁷ Case M.4521, *LGI/Telenet*, Commission Decision of January 22, 2007.

¹¹⁸ Framework Directive, para.4-003, n.4, Art.2(b) and Art.15(4) and SMP Guidelines, para.4-003, n.5, para.122.

¹¹⁹ See Appendix 2, section 2 for references to the relevant cases.

¹²⁰ See Appendix 2, section 3 for references to the relevant cases.

¹²¹ See Appendix 2, section 4 for references to the relevant cases.

¹²² See Appendix 2, section 5 for references to the relevant cases.

¹²³ See Appendix 2, section 6 for references to the relevant cases.

¹²⁴ See Appendix 2, section 7 for references to the relevant cases.

operators are authorised to operate or to use share facilities such as spectrum). This is the case for nearly all the markets identified in the Commission's First and Second Relevant Markets Recommendations. Similarly, in the media sector, the Commission has consistently defined the relevant geographic market along national borders and/or linguistic regions (either within a Member State or in a cross-border area sharing a common language). This is because the sector, at least as far as the control of editorial content is concerned, is still characterised by national or regional restrictions on the cross-border provision of services (e.g. ownership restrictions and local content obligations in the audiovisual sector or national authorisation procedures). Moreover, cultural and language differences continue to segregate markets.

4-048 Certain markets are sub-national—Due to their particular history, where different electronic communications operators were active in separate but adjacent geographical areas, some NRAs have traditionally segmented certain markets, mainly in the fixed sector, into separate geographical areas. For instance, the UK regulator has generally distinguished the Hull area from the rest of the national territory because Kingston Communications (and not BT) was the incumbent operator in the area. Similarly, the Finnish regulator has segmented its national territory into 26 regional zones corresponding to the activities of the 26 incumbent fixed regional operators and the Hungarian regulator did the same for the five regional operators.

4-049 Defining markets according to the development of competition—With uneven progress of the development of competition in the national territory of some Member States, as new entrants are in general focusing on the urban areas, certain NRAs have started to segment markets into several sub-national areas¹²⁵ in order to roll back *ex ante* regulation in the competitive areas of the national territory, whilst maintaining it in other areas where competition has not developed.¹²⁶ Such geographical segmentation mainly takes place for two markets:

- *wholesale broadband access* (market 5/2007), which has been segmented according to the number of operators present in a local exchange area. The United Kingdom regulator¹²⁷ has segmented this market into three type of local exchange areas: (i) areas where only the incumbent BT is present; (ii) areas with two or three principal operators, and exchanges where there are forecast to be four or more principal operators, but where the exchange serves less than 10,000 premises; and (iii) areas with four or more principal operators, and exchanges where there are forecast to be four or more principal operators, but where the exchange serves more than 10,000 premises. The Portuguese regulator¹²⁸ has segmented this market into two types of areas: (i) areas covered by a Main Distribution Frame (MDF) where there is at least

¹²⁵ Better Regulation Directive, para.4-003, n.4, recital 7; Explanatory Note to the Second Markets Recommendation, para.4-009, n.22, 12. The regional segmentation should be assessed by the NRA and not be directly pre-determined in the law: Case PL/2008/0856, para.4-014, n.33.

¹²⁶ When there are differences in the conditions of competition between geographic areas which are not yet sufficiently stable or sustainable to justify the regional segmentation, the ERG considers that it may be appropriate to differentiate remedies according to geographic area: ERG Common Position of October 2008 on Geographic Aspects of Market Analysis, ERG(08) 20, 22. The Commission controls this approach with the same type of criteria used for geographical segmentation: see Case ES/2008/805, para.4-033, n.79; Case IT/2009/892, *Wholesale broadband access*, Commission Comments of April 14, 2009; and Cases SI/2009/981-982, *Wholesale network infrastructure access and wholesale broadband*, Commission Comments of October 26, 2009.

¹²⁷ Case UK/2007/0733, para.4-009, n.22.

¹²⁸ Case PT/2008/0851, *Wholesale broadband access*, Commission Comments of January 5, 2009.

one other operator using unbundled local loops and at least one cable operator, and where the cable penetration of the MDF area is above 60 per cent; and (ii) all other areas. The Finnish regulator¹²⁹ has envisaged four potential categories of areas: (i) areas where the incumbent operator still has a monopoly for wholesale broadband access; (ii) areas where one competing operator has devices in the MDF; (iii) areas where two or more competitors use their own networks in at least one of the MDF areas in the municipality; and (iv) areas where at least three competitors have their own DSL networks, or at least two competitors have their own DSL network and there is wireless broadband supply with geographic coverage in the municipal area.

- *terminating segment of leased lines* (market 6/2007). The United-Kingdom regulator has segmented this market into the London area (CELA), the rest of the UK, and the Hull area.¹³⁰ The Austrian regulator has segmented the market into two types of areas: big cities and rest of the country.¹³¹

4-050 Approach of BEREC and NRAs—The ERG¹³² considered that an NRA should first determine whether the market is national, i.e. whether the competitive conditions are homogeneous across the national territory because (i) alternative networks either have small coverage and market shares, or have (close to) national coverage with similar prices; (ii) there is a uniform price of the incumbent operator and similar prices of alternative operators; and (iii) there are no significant geographic differences in product characteristics. If that is not the case, the NRA should segment the national territory along appropriate geographical units based on political or administrative boundaries, or on the network structure of the incumbent operators (or possibly alternative operators with sufficient coverage). In each geographic unit, the competitive conditions should be sufficiently homogeneous, which includes an analysis of the differences in barriers to entry, the number of suppliers and prices. Other criteria which might be considered are geographic differences in marketing/sales strategies, quality/functionality or the nature of demand.

4-051 Approach of the Commission in applying sector specific regulation—The Commission made clear that, before endorsing the regional segmentation of markets during its review of NRAs' draft decisions, it will check carefully whether structural and behavioural evidence supports such a segmentation. In particular, the Commission will look at: (i) the number of operators present in the sub-national area; (ii) the distribution and evolution of regional market shares; (iii) the regional differentiation of the retail or wholesale pricing of both the incumbent and alternative operators; (iv) the regional differentiation in the functionalities and the types of product being offered, marketing strategies or entry conditions; and (v) the stability of geographical boundaries over time.¹³³

¹²⁹ Case FI/2009/900, para.4-033, n.81.

¹³⁰ Case UK/2008/747, *Wholesale terminating segments of leased lines*, Commission Comments of March 26, 2008, and Case UK/2008/787, *Wholesale terminating segments of leased lines* (re-notification), Commission Comments of August 8, 2008.

¹³¹ Case AT/2008/836, *Wholesale terminating segments of leased lines* (market definition), Commission comments of December 18, 2008 and Case AT/2009/932, *Wholesale terminating segments of leased lines* (remedies) Commission Comments of July 9, 2009.

¹³² ERG Common Position of October 2008 on Geographic Aspects of Market Analysis, ERG(08) 20.

¹³³ See Case IT/2009/892, para.4-049, n.131; Case AT/2008/836, para.4-049, n.151; Case AT/2009/932, para.4-049, n.131; and Case FR/2008/781, *Wholesale broadband access*, Commission Comments of July 18, 2008. In the application of the EU state aid rules, the Commission also distinguishes between black, grey and white area to assess the legality of state subsidies for the deployment of new broadband networks: Community

4-052 Approach of the Commission in applying competition law—In some recent cases, the Commission has adopted a different approach towards geographic segmentation when applying sector-specific regulation and competition law. Although it has endorsed the approach of the UK regulator, OFCOM, to geographically segment the wholesale broadband access market for the purposes of *ex ante* regulation (due to differences in the extent of competition in different local exchanges),¹³⁴ the Commission has generally defined markets as being national market when applying EU competition law, although it has often left open the exact geographic definition.¹³⁵

Guidelines of September 17, 2009 for the application of state aid rules in relation to rapid deployment of broadband networks, O.J. 2009 C235/7, discussed in Ch.VI, para.6-106 *et seq.*

¹³⁴ Case UK/2007/733, para.4-009, n.22.

¹³⁵ *Carphone Warehouse/Tiscali UK*, para.4-032, n.74, paras.52-53: the Commission observed that it might not be possible to identify individual local exchanges or a group of local exchanges which can be distinguished from other local exchanges in neighbouring geographic areas because the conditions of competition for wholesale broadband access would not be appreciably different. See generally, Appendix 2, section 4.